

Notice of Allowability

Application No.

10/635,692

Examiner

Melissa Austin

Applicant(s)

SHIBATA ET AL.

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's communications 1/3/2005 and 2/7/2005.
2. ☒ The allowed claim(s) is/are 1,3 and 5-7.
3. ☒ The drawings filed on 03 January 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Sandy Katz on 7 April 2005.

The application has been amended as follows:

Please amend the paragraph under the heading COMPARATIVE EXAMPLE 2 at page 27 of the specification to read as follows:

COMPARATIVE EXAMPLE 2

In the same manner as in Example 1, a separator plate having the following dimensions was produced. The separator plate had an external size of 20 cm x 20 cm and a thickness of 3.0 mm, and the gas flow channel and the cooling water flow channel had a width of 0.5 mm, a depth of 1.0 mm, and a rib width of 1.0 mm. The MEA-1 sheet was sandwiched by the above-mentioned two separator plates, and the resultant was clamped such that the portion of the carbon fiber non-woven fabric contacting the rib of the separator plate had a thickness of 0.11 mm. Then, since the width of the gas flow channel was narrow, the carbon fiber non-woven fabric was compressed as a whole, protruding only a little into the gas flow channel by not more than 0.05 mm, as illustrated in FIG. 7. In FIG. 7, 61 represents a polymer electrolyte membrane sandwiched by an anode 62A and a cathode 62B, which protrude a little into the gas flow channels 64A and 64B of separator plates 63A and 63B, respectively.

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2. The following is an examiner's statement of reasons for allowance: the prior art of record fails to teach: a fuel cell in which the gas diffusion layer comprises a first section having a surface A that comes in direct contact with the anode-side or cathode-side separator plate and a second section having a surface B that faces the gas flow channel of the anode-side or cathode-side separator plate, where the porosity of the first section is lower than the porosity of the second section, the second section protrudes into the gas flow channel, and the ratio of the porosity of the first section of the gas diffusion layer to the porosity of the second section is 0.20 to 0.85.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Austin whose telephone number is (571) 272-1247. The examiner can normally be reached on Monday - Thursday, alt. Friday, 7:15 AM - 4:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mja
Melissa Austin
Patent Examiner
Art Unit 1745


PATRICK JOSEPH RYAN
SUPERVISOR, PATENT EXAMINER